



Features and Benefits

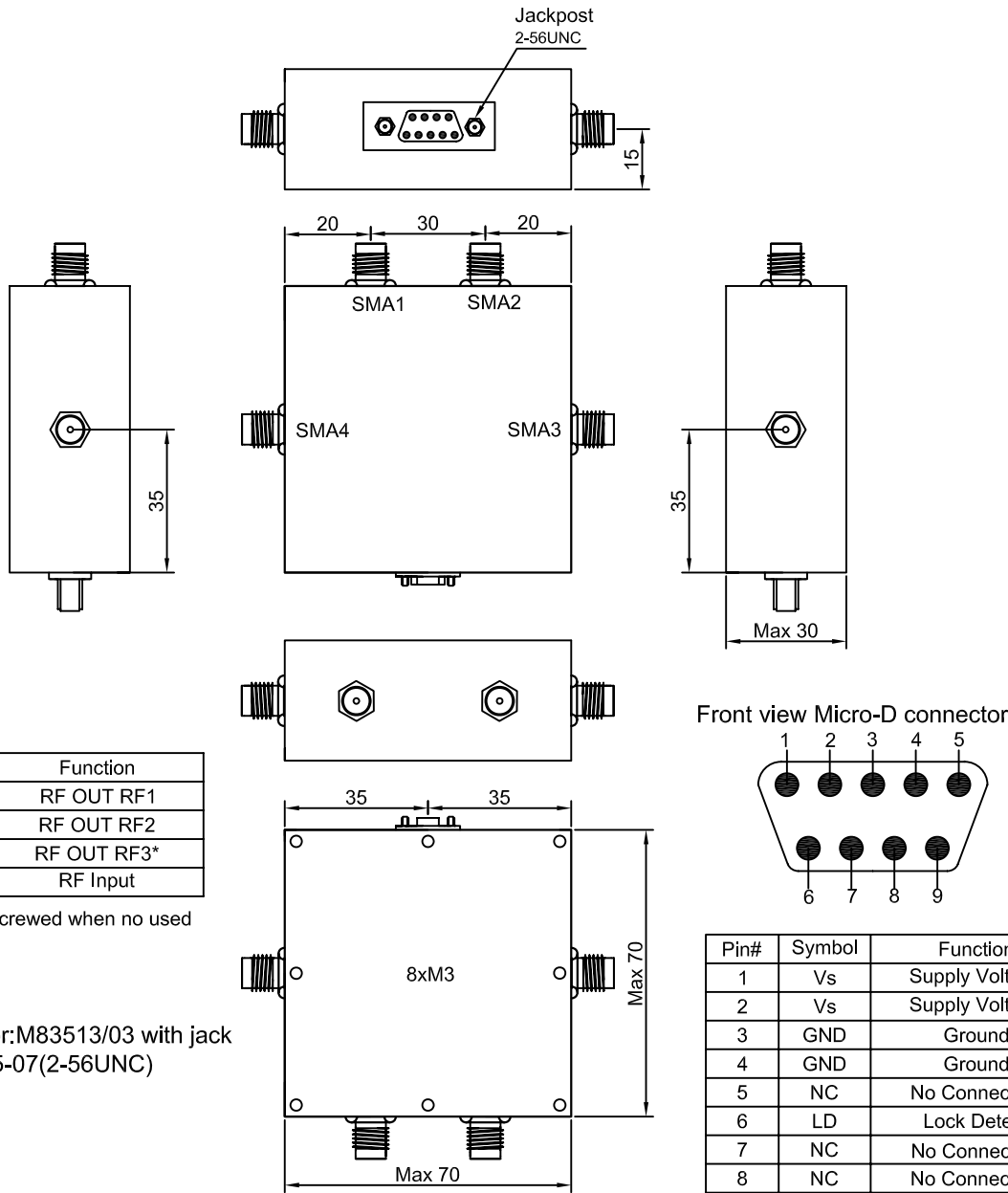
- Internal Ultra-Low Phase Noise Reference OCXO
- Customizable frequency source
- 1 direct OCXO output and 2 user definable multiplied outputs
- Phase locked to external reference
- Phase coherent outputs

Typical Applications

- Mobile Radio
- Communication Equipments

Mechanical Drawing & Pin Connections

Drawing No:MD160082-1



Pin Connection:

Pin#	Symbol	Function
SMA1	RF OUT	RF OUT RF1
SMA2	RF OUT	RF OUT RF2
SMA3	RF OUT	RF OUT RF3*
SMA4	RF IN	RF Input

*Output RF3 blind screwed when no used

Unit : mm
 1mm=0.039inch

Micro-D connector:M83513/03 with jack posts M83513/05-07(2-56UNC)

Pin#	Symbol	Function
1	Vs	Supply Voltage
2	Vs	Supply Voltage
3	GND	Ground
4	GND	Ground
5	NC	No Connection
6	LD	Lock Detect
7	NC	No Connection
8	NC	No Connection
9	NC	No Connection



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range RF1	F ₀	ULN OCXO	50		160	MHz	Must be integer multiples of RF 1
Frequency Range RF2		Multiplied RF1	300		1300		
Frequency Range RF3		Multiplied RF1	300		3000		
RF1 Output							
Output Wave Form			Sine wave				
Load	R _L			50		Ω	±5%
Amplitude			+7			dBm	
Harmonics					-30	dBc	
Spurious (Including PLL products)					-80	dBc	
Phase Noise free running @ 100 MHz (Please consult DEI for phase noise of other frequencies)		@10 Hz			-100	dBc/Hz	
		@ 100 Hz			-130		
		@ 1 kHz			-160		
		@ 10 kHz			-170		
		@ ≥ 100 kHz			-175		
RF2 & RF3 Output (Phase coherent to RF1 (OCXO))							
Output Wave Form			Sine Wave				
Load	R _L			50		Ω	±5%
Amplitude			+7			dBm	
Harmonics					-30	dBc	
Sub-harmonics (multiples of RF1)					-40	dBc	
Spurious (Including PLL products)					-80	dBc	
Phase Noise (PLL will be optimized to application w.r.t. phase noise)			Consult DEI				
Power Supply							
Voltage	V _s		11.4	12.0	12.6	V	
Current Consumption Warm-up Steady State					600 400	mA	@+25°C
PLL Parameters							
Loop Frequency	f _{Loop}		PLL will be optimized to application w.r.t. phase noise			Hz	
Channel Spacing	f _{Ch}					MHz	
Lock Time						s	
Lock Detect Output			3.5	0 5	1.5	V V	Out of lock Lock
Input Frequency FREF			5	10	100	MHz	Refer to order code
Frequency Accuracy					±500	ppb	
Input Level			0		+13	dBm	
Input Impedance			50			Ω	
Frequency Stability							
VS. Tolerance				±100	±500	ppb	
VS. over operating temperature range					±50	ppb	
VS ±5% change in supply voltage	V _s				±10	ppb	Pushing
VS. ±5% change in load					±10	ppb	Pulling
Long Term Aging Per day Per year				±1	±2 ±100	ppb	



Environmental Conditions	
Parameter	Reference Std.
Operating temperature range	-10°C to +60°C
Enclosure (L x W x H)	70 x 70 x 30 max. (mm)
Weight	200 g
Packing	Palette

Note: Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated

Absolute Maximum Ratings

Parameter	Sym.	Condition	Min.	Max.	Unit
Supply Voltage	V _S	V _S to GND	-0.5	V _S + 10%	V
RF Input Power	P _{IN}	R _L = 50Ω	-	+15	dBm
Storage Temperature			-55°C to +105°C		

Ordering Code

Model	Input Frequency [MHz]	Ouput Frequency RF1 [MHz]	Ouput Frequency RF2 [MHz]	Ouput Frequency RF3* [MHz]
PLOCXO7070L	10	100	1000	2000

Example: PLOCXO7070L-10-100-1000-2000. *Output frequency RF3 is optional

Pin Connections

Pin #	Symbol	Function
SMA1	RF OUT	RF Output RF1
SMA2	RF OUT	RF Output RF2
SMA3	RF OUT	RF Output RF3*
SMA4	RF IN	RF Input FREF

- Output RF3 blind screwed when not used

Pin #	Symbol	Assignment Micro-D
1	V _S	Supply Voltage
2	V _S	Supply Voltage
3	GND	Ground
4	GND	Ground
5	N.C.	No Connection
6	LD	Lock Detect
7	N.C.	No Connection
8	N.C.	No Connection
9	N.C.	No Connection

- Micro-D Connector: M83513/03 with jack posts M83513/05-07 (2-56 UNC)

Handling and Test

Parameter	Procedure	Condition
Electrostatic Discharge (ESD)		
THD Devices	IEC60749-26 HBM	2000V
SMD Devices	IEC60749-27 MM	200V
Washable	Yes	
ROHS-Compliant	Yes	



Environmental Conditions

Test	IEC 60068 Part	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test Conditions (IEC)
Sealing Tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak; Test Qc, Fine leak; Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta Method 1 Test Td, Method 2 Test Td, Method 2
Shock*	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 2 x per axes 100g 6ms half-sine pulse
Vibration, sinusoidal*	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test FC, 30 min per axes
Vibraton random*	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests - Aging - Extended aging		5.7.1 5.7.2	108A		4.8.35	30 days @ 85°C, OCXO @ 25°C 1000h, 2000h, 8000h @ 85°C

Other environmental conditions information available upon request.